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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,049	09/09/2003	Clinton J. Boriak	60991B	1948

109 7590 03/15/2005

THE DOW CHEMICAL COMPANY
INTELLECTUAL PROPERTY SECTION
P. O. BOX 1967
MIDLAND, MI 48641-1967

EXAMINER

SELLERS, ROBERT E

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 03/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

29

Office Action Summary	Application No.	Applicant(s)	
	10/658,049	BORIAK ET AL.	
	Examiner	Art Unit	
	Robert Sellers	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-46 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/9/2004</u> . | 6) <input type="checkbox"/> Other: ____ |

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-5, drawn to a process for making an epoxy resin comprising (a) converting phenol(s) to aryl allyl ether of phenol(s), (b) converting an aryl allyl ether of phenol(s) to α -dihydroxy derivative(s) of phenol(s), and (c) converting an α -dihydroxy derivative of phenol(s) to an aryl glycidyl ether of phenol(s), classified in class 528, subclass 92.
- II. Claims 6-43, drawn to a process for making an α -halohydrin intermediate of phenol(s) comprising (a) converting an aryl allyl ether of phenol(s) to an α -dihydroxy derivative of phenol(s), and (b) converting the α -dihydroxy derivative of phenol(s) to an α -halohydrin intermediate of phenol(s), classified in class 528, subclass 219.
- III. Claims 44 and 46, drawn to a process for making an epoxy resin comprising (a) preparing an aryl allyl ether of phenol(s), (b) converting an aryl allyl ether of phenol(s) to an α -dihydroxy derivative(s) of phenol(s), (c) reacting the α -dihydroxy derivative(s) of phenol(s) with (i) a hydrogen halide and (ii) a carboxylic acid or ester to form a phenolic-based α -halohydrin intermediate, and (d) converting the phenolic-based α -halohydrin intermediate to an epoxy resin, classified in class 528, subclass 95.
- IV. Claim 45, drawn to an epoxy resin product, classified in class 528, subclass 94.

The inventions are distinct from each other because:

1. The additional step (c) in the process of Group III of forming a phenolic-based α -halohydrin intermediate converted to an aryl glycidyl ether of phenol(s) is materially different from the process of Group I wherein an α -dihydroxy derivative of phenol(s) is directly converted to an aryl glycidyl ether of phenol(s).
2. The additional step in the processes of Group I or III of forming an aryl glycidyl ether of phenol(s) is materially different from the process of Group II wherein the process is stopped at the preparation of the α -halohydrin intermediate of phenol(s).
3. Inventions (I or III) and IV are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another materially different product or (2) the product as claimed can be made by another materially different process (MPEP § 806.05(f)). In the instant case, the product as claimed can be made by another materially different process such as the reaction of an α -halohydrin intermediate of phenol(s) with glycidol to obtain an epoxy resin.
4. The process of Group II yields a materially different product of α -halohydrin intermediate of phenol(s) from the epoxy resin product of Group IV.

Restriction for examination purposes as indicated is proper because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification.

This application contains claims directed to the following patentably distinct species of the claimed invention:

1) Contingent upon the election of Group I:

a) The phenols of claim 5 such as the 4,4'-bisphenol A (claim 5, page 92, line 27) depicted on page 78 of the specification (Reaction Scheme V).

b) The aryl allyl ethers of phenols such as the bisphenol A diallyl ether shown in Reaction Scheme (V).

c) The α -dihydroxy derivatives of phenols such as the bisphenol A α -dihydroxy derivative exhibited in Reaction Scheme (V).

d) The aryl glycidyl ether epoxy resins such as the bisphenol A epoxy resin illustrated in Reaction Scheme (V).

2) Contingent upon the election of Group II, items b) and c) hereinabove and

e) the α -halohydrin intermediates of phenols such as the bisphenol A α -chlorohydrin intermediate of Reaction Scheme (V).

3) Contingent upon the election of Group III, items b), c), d) and e) hereinabove and

f) the hydrogen halides such as the HCl used in Example 1D. on page 82, line 15 and

g) the carboxylic acids or esters such as 1-methoxy-2-propanol acetate employed in Example 1D. on page 82, line 13.

4) Contingent upon the election of Group IV, the epoxy resins products such as the bisphenol A epoxy resin of Reaction Scheme (V).

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species within each of items 1) to 4) for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1-46 are generic.

A reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

The reply to this requirement to be complete must include an election of the invention and species to be examined even though the requirement be traversed (37 CFR 1.143). Upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

5. The specification on page 1, line 2, before the title "Background of the Invention" should include a reference to parent application no. 09/899,409 by the sentence:

"This application is a divisional of application no. 09/899,409 filed July 5, 2001, U.S. Patent No. 6,646,102."

6. European Patent No. 77,201 cited on page 2 of the Information Disclosure Statement, Form PTO-1449 could not be considered due to the lack of availability of a copy. A copy is respectfully requested.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Sellers whose telephone number is (571) 272-1093. The examiner can normally be reached on Monday to Friday from 9:30 to 6:00.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

rs 2/7/2005



ROBERT E.L. SELLERS
PRIMARY EXAMINER